

ABSTRACT

A speech verification process involves comparison of enrollment and test speech data and an improved method of comparing the data is disclosed, wherein segmented frames of speech are analyzed jointly, rather than independently. The enrollment and test speech are both subjected to a feature extraction process to derive fixed-length feature vectors, and the feature vectors are compared, using a linear discriminant analysis and having no dependence upon the order of the words spoken or the speaking rate. The discriminant analysis is made possible, despite a relatively high dimensionality of the feature vectors, by a mathematical procedure provided for finding an eigenvector to simultaneously diagonalize the between-speaker and between-channel covariances of the enrollment and test data.